

Third West Weekly Report Shepherd, Michael



to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)' 12/28/2011 08:29 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbamitz@utah.gov)" <cbamitz@utah.gov>

6 Attachments











Weekly Report 12-19 to 12-22.pdf Third West Weekly Log - 2011-51.pdf 226406-1.pdf 226479-1.pdf 226568-1.pdf



226620-1.pdf

Joyce & Craig,

Attached are the reports for the week of December 19, 2011.

All air monitoring results came back negative, except the two positive hits of chrysotile on Thursday last week.

The site was not active on Friday or Saturday, thus there are no reports for those days. Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
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801.220.2797 Fax
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3^{RR} WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE:	12/19/11
General NA NA NA NA NA NA NA NA NA	Work area Health and Safety Inspection Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP Site hazard and safety instruction for all first time employees, contractors or visitors Complete Employee Meeting Record Form B (where applicable) Document required Respirator Training completion with Form H Record times and numbers of dump trucks and trailers as they leave the site with contaminated material. Confirm return of waste material manifest documents for each load with site
NA Comp NA NA NA NA NA ✓	manager. lete all CSHASP Forms (for applicable activities planned for that day) Illness/Injury Report Form A Site-Specific Training Record Form C Hot Work Permit Form D Trench/Evacuation Permit Form E Combined Space Entry Permit From F Exclusion zone operations are practiced as instructed. □ Decontamination unit is working properly. □ Workers are using decontamination unit as instructed. □ Workers use personal protective equipment properly.
	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation. we control measures for dust and fugitive materials i.e. watering excavation and track out prevention. Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
NA NA NA NA	Soil Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soi removal Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA		Electronically file photo files into the on-site database
		Complete Field Documentation
[$\overline{\mathbf{A}}$	Field Sample Data Sheets (FSDS)
[$\overline{\mathbf{A}}$	Logbook
Ĺ	NA	On-site computer database
		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
☑		Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 12/19/11				
Location: 3rd West, 1st South, SLC	Job Number:				
Survey Conducted By:	Title:				

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	,
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.		3	х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			\$,

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	,
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	*
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х		8	
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			*
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			,
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	х			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Comments:

Newman drove water truck into exclusion zone at around 7:30 and started excavation before 8:00. Backing dump trucks with pups into the north gate is requiring some traffic direction. R&R and CVE helping with this on 1st south.

Truck #92 loaded, washed and exited around 10:20.

Truck #91 washed out around 11:00

Newman side dump washed out around 12:30

Truck #92 washed out around 14:40

Truck #91 washed out around 15:20

Craig Barnet (sp?) on site at around 16:00 to check up on progress. Had a few questions about how long EZ would be up.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DIMET CHECKETOT
DATE:	12/20/11
<u>General</u>	W. I. H. H. LOCK I
	Work area Health and Safety Inspection
NA	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
BT A	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
·NA	Record times and numbers of dump trucks and trailers as they leave the site with
	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site
	manager.
NA Com	olete all CSHASP Forms (for applicable activities planned for that day)
NA .	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Pennit From F
☑	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	☑ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
☑	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
\square	Observe control measures for dust and fugitive materials i.e. watering excavation
	sites and track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday
<u>Samplin</u>	्र ट्र
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
	removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA	Electronically file photo files into the on-site database
☑	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
$\overline{\mathbf{A}}$	Logbook
NA	On-site computer database
\square	Label each sample media with a unique number
\square	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 12/20/11
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By:	Title:

Standard	Title	In Compliance	Out of Compliance	D/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.		-	x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	O N/A	Corrective Action Taken and Date
отинити	Excavation protective systems; examination by			x	
1926.652 (a) (1)	competent person when less than 5 feet in depth.				
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.		¥	х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	4)		х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	ā
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.	,		х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	8		x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	E		x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			*
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

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		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			4
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			*
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	-

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	х			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х		а	
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	х			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Comments:

Newman began EZ work around 8:00.

Newman side dump washed out around 9:45

Truck #92 washed out around 11:10

Truck #91 washed out around 12:15

CVE poured part of the wall for the switch gear building and breaker pad porches (around 12 yards).

Air monitoring around the exclusion zone conducted through work activities.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	<u>DAILY CHECKLIST</u>
DATE:	12/21/11
~ .	•
General	
	Work area Health and Safety Inspection
NA	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
***	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with
٠	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Com	plete all CSHASP Forms (for applicable activities planned for that day)
NA .	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
\square	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
☑	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
☑	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
	Review sign-in/sign-out log throughout and at the end of the workday.
\square	Secure the site at the end of the workday
<u>Samplin</u>	g .
NA Soil (Confirmation sampling for any newly excavated areas
☑	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusions zone .
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel
. 1171	determined necessary





NA	Electronically file photo files into the on-site database
Ø	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
NA	On-site computer database
\square	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
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Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
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3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 12/21/11
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	9
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	D/A	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.		7	x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		er e	х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.		w.	x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	,
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.		/#2	x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х		5	,
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

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Standard	Title				Date
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1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	х			
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x	s		
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	2		x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

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1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
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1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x	(4)		,
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.		*	х	

Comments:

Newman began EZ work around 8:00.

Bi-weekly team meeting conducted are 9:00. Discussed holding another HAZWOPER training class in January. CVE and Newman to discuss and get back to RMP and R&R on scheduling.

Scott Collard on site to check in on progress.

CVE pulled forms from switch gear building walls and continued working on foundation forms. Newman side dump washed out around 14:15.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	DAILY CHECKLIST
DATE:	12/22/11
Ger	<u>eral</u>
<u>3€1</u>	Work area Health and Safety Inspection
NA	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
1 12 1	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
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NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
	NA Illness/Injury Report Form A
	NA Site-Specific Training Record Form C
	NA Hot Work Permit Form D
	NA Trench/Evacuation Permit Form E
	NA Combined Space Entry Permit From F
$\overline{\mathbf{A}}$	Exclusion zone operations are practiced as instructed.
	☑ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
	✓ Workers use personal protective equipment properly.
✓	Set air samples at cardinal compass points around exclusion zone. Check
_	throughout the day to ensure proper operation.
☑	Observe control measures for dust and fugitive materials i.e. watering excavation sites an track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday
San	pling
NA	Soil Confirmation sampling for any newly excavated areas
☑	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
A 14 B	removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary
	Electronically file photo files into the on-site database





⊻	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
M	Logbook
NA	On-site computer database
\square	Label each sample media with a unique number
\square	Seal sample(s) in zip lock plastic bags
☑	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
NA	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
NA	Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station	Date: 12/22/11
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By:	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.			x	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	, ,
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			х	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			х	
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	4.
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.			х	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer of the tool is double insulated.		٨	х	
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	-

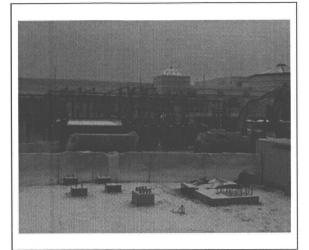
Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
Stanaara	1 ttte				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Comments:

No CVE fabricating crew today.

Newman worked on breaking and piling concrete throughout the day. Neil had to temporarily alter the exclusion zone to accommodate for an electrical panel delivery to the control building. Wall north of the decontamination unit was moved across to the corner of the artistic printing building, opening up the north driveway area and closing off the EZ on the north side. Newman side dump washed out around 16:00.

R&R suited up and entered the EZ to observe excavations and inspect a concrete wall where a saw cut will be done 12/27. Observed presence of vermiculite throughout the excavated soil and concrete.



РНОТО 1

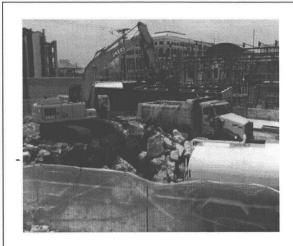


PHOTO 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 12/19/2011	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

18			
DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 12/19/2011	FILE:	

SITE PHOTOGRAPHS





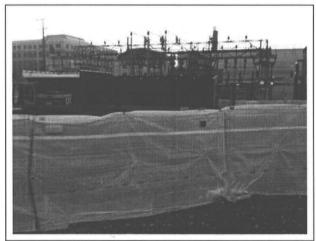
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 12/20/2011	FILE:	

SITE PHOTOGRAPHS

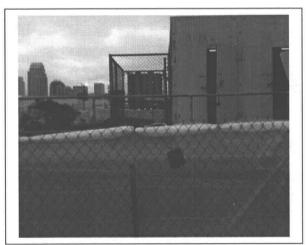




РНОТО 1



PHOTO 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

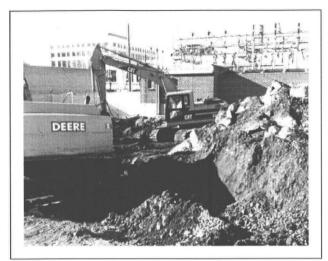
DESIGNED BY: SCALE: REVIEWED BY: DCR

DRAWN BY: DATE FILE:

JMK 12/21/2011

SITE PHOTOGRAPHS

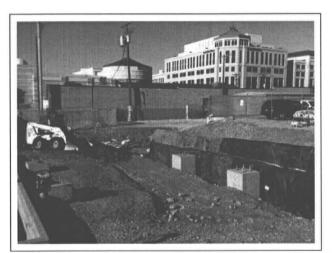




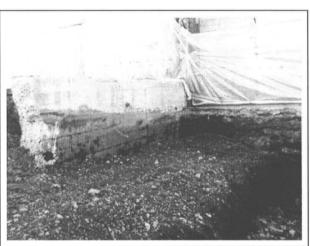
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & Renvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE: 12-22-11	FILE:	

SITE PHOTOGRAPHS



PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third Wes	DATE:	Monday	, December 19	9, 2011						
PO & Work Order NO. :	3000078050 / 10035803		MAIN CONTRACTOR:		Cache Valley Electric						
Crew Start Time:	6:55	Crew Stop Time:	17:15		Tot Hrs mns:	10:2 0					
FCR Start Time:	6:40	FCR Stop Time:	18:00		Tot Hrs mns:	11:20					
Use military time format 00:00	3.10	3.			_						
, constant (constant		*		•	•						
WEATHER CONDITIONS:		Light Snow, 28 deg	rees in AM, 25 d	egrees in tl	he PM	· 47					
DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. We will be fabricating block outs in the walls of the switchgear to accommodate the exiting 6" runs for the 12 kV											
cables. After talking with Brent Wig appropriate. CVE fab crew is work section at 10:00 AM on Tuesday. The the material to Clean Harbors. Nev and pup). Craig Bamett, UDEQ ca He indicates that he probably won't 1, Dustin Miller Trucking = 2, Wildin	ing on the walls (The EZ is activate wman loaded out ime by around 4:0 t be back to the s	nebar, blockouts, etc.) for the end and Newman is loading out 5 truck/trailer loads today, on the common PM to see what was going on the common PM to see what was going on the common PM to see what was going on the common PM to see what was going on the common PM to see what was going or PM to see whet was going or PM to see whe was going or PM to see whet was going or PM to see whet was goi	east switchgear se trucks with concre e Newman truck (son and what our so	ction. Antici ete, rebar, di side-dump) a chedule for t	pate a pour of the rt and misc. deboard four M iller tr	ne east wall ris, hauling ucks (tmck ks will be.					
IF WORKING IN ENERGIZED	SUBSTATION:										
Dispatcher login, name and time:	Gus Montane					7					
Dispatcher logout, name and time:	Jim 1800										
DISCREPANCIES:	•		IMMEDIATE CO	DRRECTIV	E ACTION TA	KEN:					
11/22 - We found two fdns in the old sub that were under the yard rock and not included in CVE to provide CO for removing the additional concrete.											
the details of concrete to be removed fr 11/16 - No resolution on the 20' ground		CVE to provide per	unit price to de	rill concrete							
11716 - No resolution on the 20 glound	CVL to provide per	uriit price to ui	illi Coliciete.								
11/30 - Identified an additional retaining	Will excavate to dete	ermine dimen:	sions.								
Demo Plan. 12/14 - Communications battery rack ex	Sent email and pictures to Roger F to confirm that this conflict is										
indicates that they were told to proceed	acceptable to RMP. Under evaluation by Comm Group										
12/15 - Excavated to locate the 46 kV-cables exiting the west side of the yard. Dug 8' and Sent e-mail to I											
didn't find them. Will try again. Actual depth will be much deeper than design of new bank DELAYS OR LOST TIME ENCOUNTERED:											
EQUIPMENT (working, delivered, idle):											
CVE fab crew: Portable toilet (2), forkli portable wash-down structure, trachoe				crew truck, bo	oom truck (2). Nev	wman:					
OSHA Recordable Safety Inc	idents:			Reported I	hv: 7	 Time:					
OSTIA Recordable Salety Inc.		reported i	Jy.	™e. 7							
 _											



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild		DATE : Tuesda	y, December 2	0, 2011					
PO & Work Order NO. :	3000078050 / 10035803		MAIN CONTRACTOR	: Cache Valley Electric						
Crew Start Time:	6:55	Crew Stop Time:	17:00	Tot Hrs mns:	10:05					
FCR Start Time:	6:45	FCR Stop Time:	17:20	Tot Hrs mns:	10:35					
	0.40	1 OKOtop Time:	17.20		10.55					
Use military time format 00:00										
WEATHER CONDITIONS: Overcast, 25 degrees in AM, 30 degrees in the PM										
DESCRIPTION: (work perfor	rmed, general co	omments, instructions to	contractor, # of crew me	embers onsite.)					
five loads today. One Newman trup concrete. A total of three loads today. Pour was started at 10:00 breaker foundations. The air test Dustin Miller Trucking = 2, Wilding	s were sent to Clea AM and they poure came in at 6.7% a	an Harbors today. CVE fab creed the east one-third of the swi	ew continues to prep the east	t switchgear walls hes" for the two e	s for a pour east circuit					
IF WORKING IN ENERGIZED Dispatcher login, name and time:	Gus Montane									
Dispatcher logout, name and time	: Manny LuHa			<u> </u>						
DISCREPANCIES:			IMMEDIATE CORRECTIV	VE ACTION TA	KEN:					
11/22 - We found two fdns in the old s	CVE to provide CO for removing	the additional cond	crete.							
the details of concrete to be removed			0/5	120						
11/16 - No resolution on the 20' groun	ia roa issue.		CVE to provide per unit price to	anii concrete.						
11/30 - Identified an additional retainin Demo Plan.		Will excavate to determine dimensions.								
12/14 - Communications battery rack	Sent email and pictures to Roge		•							
indicates that they were told to proceed	Barry Andersor	acceptable to RMP. Under evalues	uation by Comm G	roup						
12/15 - Excavated to locate the 46 kV didn't find them. Will try again. Actua	•	• •	Sent e-mail to Roger F.							
DELAYS OR LOST TIME EN		deeper than design of new bank. I								
EQUIPMENT (working, deliv	ered. idle):			·						
CVE fab crew: Portable toilet (2), fbri portable wash-down structure, tracho	dift, 1 dumpster, office			poom truck (2). Ne	wman:					
OSHA Recordable Safety Inc	cidents:		Reported	hv:	Time:					
Cond Recordable Salety III	cidellis.		Nepolted	Jy.	1.1116.					
		.								
<u> </u>			I	<u></u>						



Russ Johnson

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:		Third We	st Sub - Rebuild	DATE: Wednesday, December 21, 2				
PO & Work Order NO. :		3000078	050 / 10035803	MAIN CONT	RACTOR:	Cache Valle	ey Electric	
Crew Start Time:	7	:00	Crew Stop Time	17:10)	Tot Hrs mns:	10:10	
FCR Start Time:		:45	FCR Stop Time		-	Tot Hrs mns:	10:35	
Use military time format 00:0		.70	1 Olt Otop Time	17.20		1001113111113.	10.55	
Use minuty one romat out					·			
WEATHER CONDITIONS	:		Partly Cloudy - 25 d	egrees in AM, 30) degrees In	the PM		
DESCRIPTION: (work per								
R&R set up four monitors. CV also grouted some of the "concomb took place. Nevmian load concrete and backtilling along on the Demo Plan. Dimension Wilding = 1.	e" holes aded out the sout	in the transformers one truck of the	ormer pedestal as well as the concrete/dirt, sent to Clean H switchgear wall/footing. We i	areas under the me arbors. They sper dentitied two additi	etal embeds nt the remain ional undergr	where some mi der of the day b	nor honey- reaking out do not shov	
IF WORKING IN ENERGIZ	ZED SU	BSTATION	:		6.		•,	
Dispatcher login, name and tir	ne:	Ken Barteau	1 0645					
Dispatcher logout, name and t	time:	Manny LuHa	aun 1720					
DISCREPANCIES:				IMMEDIATE C	ORRECTIV	E ACTION TA	KEN:	
11/22 - We found two fdns in the o			the yard rock and not included in	CVE to provide CO	for removing	the additonal con-	crete.	
the details of concrete to be remo				CVE to provide per	unit price to d	rill concrete		
11/16 - No resolution on the 20' gr		issu e .		CVE to provide per	unit price to u	mi concrete.		
11/30 - Identified an additional ret	aining wa	Il that is below	grade and does not show on the	Will excavate to de	termine dimen	sions :		
Demo Plan.			the set decrees. Conital Florida	Contorral and side	to D	F to 2005-00 th at	4	
12/14 - Communications battery raindicates that they were told to pro				Sent email and pict acceptable to RMP				
12/15 - Excavated to locate the 46	6 kV cable	es exiting the w	vest side of the yard. Dug 8' and	Sent e-mail to Roge		audit by commit o	поцр	
didn't find them. Will try again. A					···	<u></u>		
DELAYS OR LOST TIME I	ENCOU	NTERED:						
•			•					
EQUIPMENT (working, de	elivered	l, idle):						
CVE fab crew: Portable toilet (2), portable wash-down structure, tra	, forklift, 1	dumpster, offic			, crew truck, bo	oom truck (2). Ne	ewman:	
OSHA Recordable Sefeti	Incido	nte ·			Reported	by:	 Time:	
OSHA Recordable Safety	morae				I reholited	у.		
					 			
L			·	· 	1			



Russ Johnson

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild		DATE : Thursda	y, December 2	2, 2011
PO & Work Order NO. :	3000078	050 / 10035803	MAIN CONTRACTOR:	Cache Valley	Electric
Crew Start Time:	7:00	Crew Stop Time:	16:45	Tot Hrs mns:	9:45
FCR Start Time:	6:50	FCR Stop Time:	17:15	Tot Hrs mns:	10:25
Use military time format 00:00		1 01(0.00) 1	17.10		10.20
ose minary and format os.os					
WEATHER CONDITIONS:		Partly Cloudy - 24 de	grees in AM, 32 degrees in	the PM	.
DESCRIPTION: (work perfo					
Newman to work on the removal Newman broke out concrete, ind wall. Newman loaded out one s that have been shipped to Clear	cluding the newly di ide-dump tmck tod	scovered wall running east and	west from the control building	comer to the no	orth-south
IF WORKING IN ENERGIZE	D SUBSTATION		.•		
Dispatcher login, name and time					
Dispatcher logout, name and time			·		
DISCREPANCIES:	.o.		IMMEDIATE CORRECTIV	E ACTION TA	KFN:
11/22 - We found two fdns in the old	sub that were under		CVE to provide CO for removing		
the details of concrete to be remove	d from the site		•		
11/16 - No resolution on the 20' grou	und rod issue.		CVE to provide per unit price to d	Irill concrete.	
11/30 - Identified an additional retair Demo Plan.	ning wall that is below	grade and does not show on the	Will excavate to determine dimer	isions.	
12/14 - Communications battery rac	k extends into the nor	theast doorway. Capital Electric	Sent email and pictures to Roger	F to confirm that the	nis conflict is
indicates that they were told to proof			acceptable to RMP. Under evalu	ation by Comm Gr	oup
12/15 - Excavated to locate the 46 k	_		Sent e-mail to Roger F.		
didn't find them. Will try again. Actu DELAYS OR LOST TIME EN		r deeper trian design of new bank			
EQUIDMENT (working deli	wared idle).				
EQUIPMENT (working, deli CVE fab crew: Portable toilet (2), for portable wash-down structure, track	orklift, 1 dumpster, offi		• • •	oom truck (2). Nev	vman:
OSHA Recordable Safety II	ncidents:	 	Reported	by: 1	ime:
L					



Russ Johnson



December 21, 2011

Laboratory Code: Subcontract Number:

RES NA

Laboratory Report: Project # / P.O. # Project Description: RES 226406-1 None Given

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226406-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 226406-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given Client Project Description:

3rd West Sub - RMP

Date Samples Received:

December 20, 2011

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

December 21, 2011

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-121911-S	EM	839881	0.0800	967	ND	0.0050	BAS	BAS
3W-121911-W	EM	83988 2	0.1000	95	ND	0.0405	BAS	BAS
3W-121911-N	EM	839883	0.0800	967	ND	0.0050	BAS	BAS
3W-121911-E	EM	839884	0.0800	967	ND	0.0050	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 12 2011 Due Time:

Phone Email Fax

MSS

Contact

Date

Time

Reservoirs Environmental, inc... 801 Logan St. Oerrer, CO 90216 • Pix 303 994 i 999 • Fax 303 477-4276 • Toli Free : 986 RE8I-ENV

Time

7930 3355

Initials

7528

Pager: 303-509-2048 INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION. Contact Dave Robeller Address; naw: iell/pager: 801 541-1035 Ce1/pager Project Number and/or P.O. # dave@ rrenviro.com Project Description/Locason: REQUESTED ANALYSIS ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm **VALID MATRIX CODES** LAB NOTES: RUSH (Same Day) _X PRIORITY (Next Day) _ PLM / PCM / TEM STANDARD Alr = A Bulk = B (Rush PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Soil = S Wipe = W ___ RUSH ___ 24 hr. ___3-5 Day F = Food Metat(s) / Dust Swab = SW **Prior notification is Š RCRA 8 / Metals & Welding Drinking Water = DW | Waste Water = WW Point Count required for RUSH RUSH ___ 5 day ___10 day Fume Scan / TCLP II, 7402, ISO, +/-, (ISO-Indirect Preps Q = Other turnarounds.** **ASTM E 1792 approved wipe media only** Organics 24 hr. ___ 3 day ___5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm E.coll 0157:H7, Coliforms, S.aureus ___ 24 ht. ___2 Day SHA 48 Hr. ___3-5 Day Salmonella, Listeria, E.coll, APC, Y & M Mold RUSH ___24 Hr__ _48 Hr ___3 Day ___5 Day *Ttimaround times establish a laboratory priority, subject to laboratory voluma and are not gilarantaad. Additional fees apply for aftarhours, waskends and holidays." DUST - Total, Matrix Code Special Instructions: EM Number (Laboratory Date Time Use Only) Collected Ē Collected Client sample ID number (Sample ID's must be unique) MICROBIOLOGY mm/dd/yy hh/mm a/p 967 zlalu 839881 95 3W-121911 N 83 Number of samples received: (Additional samples shall be listed on attached long form.) NOTE: REI will analyze incoming samples based upon prioritation received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analysiser services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% mentily interest surcharge. Date/fime: /2 Relinguished By: Sample Condition: On Ice Sealed Jataci Laboratory Use Only 1026. Tornp. (F⁹) Yes / No Yes / No Yas LNo FEOLEX 12.2011 Received By: Date/Time: Results: Phorus Email Fax Date 12/21 Time (0:50A Initials Contact Phone Email Fax Contact Date Time Initials

Contact

Phone Email Fax

Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
\mathbf{C}	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

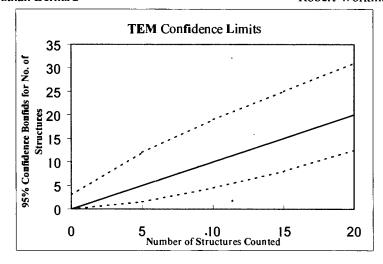
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs	Environmental	, Inc.
TEM Aspes	fos Structure C	ount

Laboratory name:	5. 36-214 - 5. Gavette. 5. 3. 5. REI (5. Feb.)
	JEOL 100 CX/N)s
Instrument	JEUL 100 CX N /S
Voltage (KV)	100 KV
Maonification	20KX 70KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.2a lym
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	RR			
Sample Type (A=Alr, D=Dust):	4			
Air volume (L) or dust area (cm2)	967			
Date received by lab	12/20/u			
Lab Job Number:	226406			
Lab Sample Number:	839881			

F-Factor Calculation (Indirect Preps Only):

Fraction of pdmary filter used

Total Resuspension Volume (ml)

Volume Applied to secondary filter

Analyzed by	J3
Analysis date	12/21/11
Method (ID=Direct, i=Indirect, IA=indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Structure	No. of St	uchires	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	_c	NAM	Sketch/Commente	Sketch	Photo	EDS
A	62-6	ND												
	F2-6	ND			R	m	A	Ohein m	4	S	La debus			
	EZ-6	ND			R		, δ ε	O'heinbu	4	2	La delas			
	CZ-6	M				٢								
B	KZ-3	ND						/	, ,					
	HZ-3	ND					-	JB 121	21/11					
	G12-3	ND						7/	/					
	F2-3	ND		•				7 7						

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N)s
Voltage (KV)	100 KV
Maanification	20KX 20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filler area (mm2)	385
Secondary Filter Area (mm2)	多樣的強烈的人類
QA Type	

Client:	RR
Sample Type (A=Alr, D=Dust):	
Air volume (L) or dust area (cm2)	45
Date received by lab	medii
Lab Job Number:	22400
Lab Sample Number:	839882

F-Factor Calculation (Indirect Pro	eps Onty):
Fraction of primary filter used	
Total Recuspension Volume (mi)	
Vofume Applied to secondary titler (ml)	1

Scope Alignment	Data Analyzed
Grid storage location	Month Arialyzed
Counting rules (ISO, AHERA, ASTM)	AH
Method (O=Qirect, I=Indirect, IA=Indirect, ashed)	The state of the s
Analysis date	12 21 11
Analyzed by	JB

Grid	Grid Opening	Structure	No. of St	mctures	Dime	eitsions identification		Mineral Class	Class			1 = yes, blank = no		
		Туре	Primaty	Total	Length	Width		Amphibols	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F2-6	ND												
	F2-3	ND			B	<u></u>	A 6	0 / hu	4	3/0	Sobris			
	EZ-6	ND			Pa	1 1	B~	A						
	EZ-3	NO						61	/					
	CZ-6	ND					-	12/21	.1					
B	K3-1	ND												
	H3-4	ND												
	H3-1	MD		-				·						
	K3-6	ND												
	K3-3	ND										!		

Reservoirs Environmental, Inc. TElf Asbesfos Structure Count

l chambar name:	REISSA
Laboratory name:	
Instrument	JEOL 100 CX NOS
Voltage (KV)	100 KV 4
Maanification	20KX 70KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	7 46 0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	车的数据的主题
QA Tyoe	

Client :	122
Sample Type (A=Air, D=Dust):	
Air volume (L) or dust area (cm2)	462
Date received by lab	2/20/1
Lab Job Number:	20401
Lab Sample Number:	839883

J. 35
3/2/2/10
AH.
Month Arjalyzed
Date Analyzed

F-Factor Calculation (Indirect Pr	aps Only):
Fraction of primary filter used	
Total Resuspension Volume (ail)	
Volume Applied to secondary filter (mi)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nstons	Identification	Mineral Class				1 = y	es, blank	= no
GIIU	Gita Opening	Туре	Primary	Total	Length	Width	identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-6	ND												
Ĺ	G3-6	MD										i		·
	F3-6	ND			-fe	A.Q	43	~70%	a la	nt_	3-5%	bus		
	E3-6	M							1	· /				
B	45-4	ND						18	12/2	1/4				
	G5-4	MO						77		/				
	F5-4	ND											· ·	
	E5-4	ND		-										
	J													

Reservoirs Environmental, Inc. TEM Aspestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N)s
Voltage (KV)	100 KV
Magnification	(20KX)0KX
Grid opening area (mm2)	0.011
Scale: IL =	0.28 Jm 3 1/10.00
Scale: 1D =	0.056 um
Primary filter area	385
Secondary Filtar Area (mm2)	李维维德的
QA Tyce	

Client:	PR .
Sample Type (A=Air, D≏Dust):	44
Air yolume (L) or dust area (cm2)	467
Date received by lab	2/20 T
Lab Job Number:	226406
Lab Sample Number:	849884

Scope Alignment	Date Analyzed
Grid storage location	Month Analyzed
Counting mies (ISO, AHERA, ASTM)	AH
Method (D=Direct, l=Indirect, tA=Indirect, ashed)	一种种
Analysis date	12/21/11
Analyzed by	A STORY

Fraction of primary filter used	.
Total Resuspersion Voluma (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Type	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F3-1	ND												
	E3-1	ND			Pn	o A	70	hoer Land	/(D-15°	la akbirt			i
	C3-1	ND			R	o B	70	In in hut	l	'	bebie			
	133-1	ΝΌ											·	
B	C4-4	ND					18	12/24/11						
	C4-1	ND					17	/ /						
	B4-4	ND					/						·	
	B4-1	ND		•										
														,

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Strucmres}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



December 22, 2011

Laboratory Code:

RES NA

Subcontract Number:

RES 226479-1

Laboratory Report: Project # / P.O. #

None Given

Project Description:

3rd West Sub - RIMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226479-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 226479-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

December 21, 2011

Turnaround:

TEM, AHERA 24 Hour

Date Samples Analyzed:

December 22, 2011

Client ID Number	Lab ID Ni	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)	Detected	(s/cc)	(s/cc)	(s/mm²)
3W-122011-S	ÉM	840393	0.0800	999	ND	0.0048	BAS	BAS
3W-122011-W	EM	840394	0.0800	997	ND	0.0048	BAS	BAS
3W-122011-N	EM	840395	0.0800	995	ND	0.0048	BAS	BAS
3W-122011-E	EM	84039 6	0.0800	995	ND	0.0048	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm BAS = Below Analytical Sensitivity Effective Filter Area = 385 sq mm

Average Grid Opening in mrn² = 0.010

DATA QA

Due Date: 12 ZZ 11 Due Time:



5801 Lagen St. Danvar, CO 80216 • Ph; 303 964-1986 • Fax 303-477-4275 • Toll Free :868 ReSI-ENV

Pager: 303-529-2098 INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** Company: R : R Environments land, Roslælland Addross: Phono: 47 W. 9000 S Fax Fax: Coll/pogor. Collipager 801 541-1035 Project Number and/or P.O. 8: B. Menviro.com Project Description/Lecotion: 32 West Sub - RIMP **REQUESTED ANALYSIS** ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm VALID MATRIX CODES LAB NOTES: RUSH (Sams Day) X PRIORITY (Next Day) STANDARD PLM / PCM / TEM Air = A Bulk ≈ B (Rush PCM = 2hr. TEM = Stir.) Paint = P Dust = D CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Spm Soil = S Wipe = W Metal(s) / Oust ____ RUSH ___ 24 hr, __3-5 Day Swab = SW F = Food Quant [™]Prior notifiestion Is RCRAS/Metals & Wolding Drinking Water = DW | Wasta Water = WW RUSH ___ 5 day ___10 day required for RUSH Point Count Fume Scan / TCLP O = Other turnarounds.** EM - AKERA, Level II, 7402, ISO, +/-, oml-quant, Mkro-vac, ISO-Indirect Preps 24 hr. ___ 3 day ___ 5 Day "ASTM E1792 approved wipo modia only" **Organics** MICROBIOLOGY LABORATORY HOURS: Weekdays: 9ain - 6pm METALS · Analyte(s) RCRA 8, TCLP, Welding Fume, E.coli O157:H7, Coliforms, S.aureus 24 hr. ___2 Day CM - 7400A, 7400B, OSHA Salmonella, Listeria, E.coli, APC, Y & M 48 Hr. ___3-5 Day RUSH ___24 Hr ___48 Hr ___3 Day _ Mold Short report, ORGANICS - METH Sample Volume (L) / Area Turnaround timos ostablish a laboratory priority, subject to taboratory volume and are not guarantoed. Additional fee apply for attornours, weekends and holidays." DUST - Total, Code # Containers Special Instructions: EM Number (Laboratory Date Time Uso Only) Collected Collected Œ Client sample ID number (Sample ID's must be unique) MICROBIOLOGY mm/dd/yy hh/mm a/p 3W-122011S 12/2011 540393 X 94 995 \mathbf{v} 95 11-122011 Ж 995 4 8 9 10 Number of samples received: (Additional samples shall be listed on attached long form,) NOTE: REI will analyze incoming samples benefit upon information recovered and will not be responsible for errore or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge. Feifx Date/Time: 12 Relinquished By: 122/1 Sample Condition: On Ice Sealed Intact Laboratory Use Only i O Zire. Yes / No (Yes) No Temp. (F°) Yes / No 12.21 FECIEX Received By: Date/Time: Camer Results: Phone Email Fax Date 17 22/11 Time 9-300 Initials/1 Contact Contact Phone Email Fax Date Time Initials Contact Phone Email Fax Date Time Initials Contact Phone Email Fax Date Time Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

T = Tremolite

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

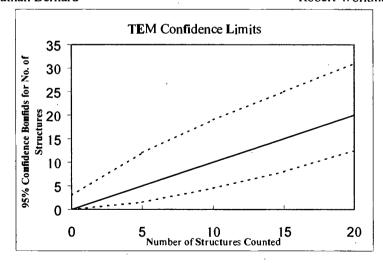
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	RAR
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	999
Date received by lab	12/21/11
Lab Job Number:	2210479
Lab Sample Number:	840393

Fraction of primary filter usad	
Total Rasuspension Voluma (mi)	
Volume Applied to secondary filter (mi)	·

Scope Alignment	Date Analyzed
Grid storage location	Month Analyzed
Counting rules (ISO, AHERA, ASTM)	AH.
Method (D=Direct, l=Indirect, LA=Indirect, ashed)	D
Analysis date	12 22 11
Analyzed by	JB

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class			Sketch/Comments	1 = y	es, blank	= no
	Ond Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM		Sketch	Photo	EDS
A	144-4	NO			. !									
···	64-4	ND				Rus	1	20/h	nt	5	La debnis			
	63.3	ND				Pas	B	70 % cn 1	nt	5	lo deloris			
	F3-3	ND		· · · · · · · · · · · · · · · · · · ·		\								
	E3-3	ND				<u> </u>		18	2/22/	Y .				
13	F4-3	ND						7/	7 /					
	E4-3	WD						/						
	C4-3	ND		. •										

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	I REI WER
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Maanification	ZOKX)10KX
Grkl opening area (mm2)	D.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	美國語語可能的
QA Tyoe	经验证证证明

Client:	RRIT
Sample Type (A=Air, D=Dusi):	In Air
Air volume (L) or dust area (cm2)	THAT AND THE
Date received by lab	12/21/1
Lab Job Number:	2010479
Lab Sample Number:	840394

F-Factor Calculation (Indirect Pr	eps Only);
Fraction of primaly filler used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB -
Analysis date	122211
Method (D=Oirect, l=Indirect,	
IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identificatian	Mineral Class				1 = yes, blank ≈ no		
Gild	One Opening	Туре	Primary	Total	Length	Width	·	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F4-4	ND				L								L
	E4-4	ND				Pa	o A	90 hun	In f		5% Jeb.	; S		
	C4-4	ND				Pul	· B	70 % (x)	In f		% dobn	<u> </u>		
	B4-4	ND						3 1						
B	K4-3	ND					. /	FB 12/22	(1					·
	H4-3	ND					•							
	64-3	ND												
	F4-3	ND							,	-				

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Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	記念 AREI 出领法
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	ZOKX)IOKX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 urn
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	李州曾建西东东
ОА Туре	

RRIGHT
15 Atom
19475
12/21/0
226679
84039

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Votume (ml)	
Voluma Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	2221
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Anatyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class			·	1 = y	es, blank	= no
Gira	Glid Opening	Туре	Primary	Total ·	Length	Width	IGC/ICIII GZCIOII	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-3	ND.												
	633	ND									·			
	F3-3	M												
	E3-3	ND			1 Pm		A 2-12	~ 80 k	0 (1)	for F	5-7%	Lebus		
B	F4-6	ND						1		· · · ·				
	E4-6	ND						1 12	12:4	. (
	C4-6	0							7	,				
	B4-6	Ŋ		-				1						

Page	1	of	

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	ZOKX)IOKX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	-385
Secondary Filter Area (mm2)	图
QA Туре	1

Client:	RRELIT
Samole Tyoe (A=Air, D=Dust):	In A H
Air volume (L) or dust area (cm2)	44.5
Date received by lab	12/27
Lab Job Number:	706479
Lab Sample Number:	840396

F-Factor Calculation (Indirect Preps Only	r):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (mt)	

Scope Alignment	Date Anafyzed
Grid storage location	Month Arialyzed
Counting mles (ISO, AHERA, ASTM)	AH
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Analysis date	12 22 11
Analyzed by	JB

Grid	Grid Opening	Structure	No. of Str	ructures	Dime	nsions	Identification	Mineral Class		***		1 = y	es, blank	= no
0.10	Ond Opening	Туре	Primary	Total	Length	Width	ide italioation	Amphibole	c_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	153-1	ND												
	H3-1	ND			Ru		60%	in but	10.	150/	debis			
	G13-1	ND			Pn	B	80%	nhut	10-1	5%	6645			
	F3-1	W			1									
3	F5-4	ND						B	12/22	/(/ _				
	E5-4	W							7.					
	(5-4	ND												
	C5-3	ND		, -									1	

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



December 23, 2011

Laboratory Code: Subcontract Number: RES NA

Laboratory Report: Project # / P.O. # Project Description: RES 226568-1 None **G**iven

3rd West Sub-RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226568-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 226568-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub-RMP

Analysis Type:

December 22, 2011

Turnaround:

TEM, AHERA 24 Hour

Date Samples Analyzed:

December 23, 2011

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number		Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Lóading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-122111S	EM	841179	0.0800	955	1	0.0050	0.0050	12.5
3W-122111W	EM	841180	0.0800	955	ND	0.0050	BAS	BAS
3W-122111N	· EM	841181	0.0800	954	1	0.0050	0.0050	12.5
3W-122111E	EM	841182	0.0900	948	ND	0.0045	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity

Effective Filter Area = 385 sq mm Average Grid Opening in mm² = 0.010

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 226568-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: 3rd West Sub-RMP

Date Samples Received:

December 22, 2011

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

December 23, 2011

Client ID Number	Lab ID Number		Asbestos Mineral	Asi	bestos Str	ucture '	Туре	es*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for	
•			-	Fibers	Bundles	Cluste	ers M	Matrices -	•		Concentration	
3W-122111S	EM	841179	Chrysotile	1	0	•	0	0	0	0	1	
3W-122111W	EM	841180	ND	0	0		0	0	0	0	0	
3W-122111N	EM	841181	Chrysotile	1	0		0	0	0	0	1	
3W-122111E	EM	841182	ND	0	0		0	0.	0	0	0	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to incorrect as pect ratio

ND = None Detected

Due Date: |2|23|11
Due Time: 11'.00 A

REILAB RESERVOIRS ENVIRONMENTAI, INC... 5801 LOOM SL Devet, CO 80216 - Pix 303 894-1986 - Fex 303-477-4275 - Toil Free: 680 RESI-ENV

RES 226568

Pager: 303-809-8098 **CONTACT INFORMATION:** INVOICE TO: (IF DIFFERENT) Company. hone 47 W. 90005 Fax: Cef/pens roject Number endAr P.O. #: roject Description/Location: 30 West Sub - KMP REQUESTED ANALYSIS **VALID MATRIX CODES** LAB NOTES: ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / YEM RUSH (Same Day) PRIORITY (Next Day) STANDARD Air = A Sulk & B (Rush PCM = 2hr, TEM = 6hr.) Paint = P Dust = D CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm Soil = S Wipe = W ___ RUSH ___ 24 hr. ___ 3-5 Day Swab = SW Metal(s) / Dust F = Food Quant **Prior notification is Drinking Water = DW | Waate Water = WW RCRA S / Metafa & Welding Point Count RUSH ___ 5 day ___10 day required for RUSH Fume Scan / TCLP O = Other ŧ tunnarounds.** 24 hr. ___ 3 day ___ 5 Day **ASTM E1792 approved wipe media only** Organics 8 MICROBIOLOGY LABORATORY HOURS: Weekdays: Sam - 6pm wETALS - Analyte(s) RCRA 8, TCLP, Welding Fume, OSHA E.coli O157:H7, Coliforms, Sauraus 24 hr. ___2 Day Salmonsila, Listeria, E.coll, APC, Y & M 48 Hr. ___3-5 Day 24 Hr Mold RUSH 48 Hr _3 Day 5 Day Short report, Turneround three establish a laboratory priority, subject to laboratory volume and are not guiaranteed. Additional teas - AHERA apply for aftorhours, waskends and holidays." Matrix Code Special Instructions: (L) / Area EM Number (Laboratory Date Tims Use Only) Collected Collected Client sampio ID number (Sample ID's must be unique) MICROBIOLOGY mm/dd/yy hh/mm a/p 21 ali 955 Q () 954 8 9 Number of samples received: (Additional samples shall be listed on attached long form.) NOTE: REI will enabyze incoming samples beared upon information received and will not be responsible for errore or organisms in calculations resulting from the inaccuracy of original data. Sy eighing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chair-of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge Date/Time: 12/21 Relinquished By Sample Condition: On Ice Sealed Intact Laboratory Use Of Temp. (F^e) Yes / No Yes/No Yes / No Received By: Carrier Date(finja: Resutts: Contact Email Fax Time INCITA Initials Contact Phone Email Fax Time Initials Date

BS 0198 7978 7686 1480

Phone Email Fax

Date

Time

Contact

Contact

Phone Email Fax

Date

Time

Initials

Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

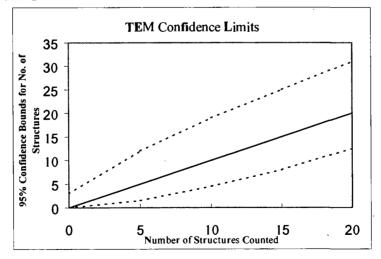
1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard

= Tremolite

Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
Voltage (KV)	100 KV
Magnification	ZOKX AUKX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D ≠	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	电对流线流流器
QA Tyoe	

Client :	Rok
Samole Type fA=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	955
Date received by lab	12 22 11
Lab Job Number:	2710568
Lab Sample Number:	54179

F-Factor Calculation (Indirect Preps Only):				
Fraction of primary filter used				
Total Resuspension Volume (ml)				
Volume Applied to secondary filter (ml)				

Analyzed by	11/5
Analys/s date	12 23 ((
Method (D=DIrect, I=Indirect, IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions Identification		Identification Mineral Class				1 = yes, blank = no		
		Туре	Primary	Total	Lenoth	Width		Amphibole	c_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H5-6	ND												
	65-6	ND			R	ر کرم	70	he in fact		10%	delas			
	F5-6	ND			2	52	100	Le in Int	10	20/2	debus	·		
	E5-6	ND												
B	66-4	ND												
	F6-4	ND												
	E6-4	F		- {	2	1	CD.		/		1		÷	
	C6-4	ND		. •				L						
							4	12/23/11						
							//	11						

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Laboratory name.	
Instrument	JEOL 100 CX/N)S
Voltaae (KV)	100 KV
Maanification	ZOKX TOKX
Gild opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primaty filter area (mm2)	385
Secondary Filter Area (mm2)	1920年198
QA Tyoe	

Client :	RK
Sample Type (A=Alr, D=Dust);	ta Atta
Air volume (L) or dust area (cm2)	2055
Date received by lab	12 22 4 4
Lab Job Number:	271.568
Lab Sample Number.	541.80

F-Factor Calculation (indirect Preps Only):				
Fraction of primary filter used				
Total Resuspension Volume (mi)				
Votuma Applied to secondary filter (ml)				

Analyzed by	118
Analysis date	(2/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	15/
Counting mies (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grkl Opening	Structure	No. of St	ructures	Dimensions		Identification	Mineral Class			1 = yes, blank = no			
	J	Туре	Primary	Total	Lenath	Width		Amphibole	С	NAM_	SketcIVComments	Sketch	Photo	EDS
A	K4-3	M												
	H4-3	ND			Pn	10 A	7	Ohin h	h.F.	-5-	7% John	,		
	G14-3	ND			P	57	5 60	Dolain h	1-	5=1	I chodelow	3		;
	F4-3	ND				1					, , , ,			
B	G15-6	ND												
	F5-6	ND						IR,	2/23	//				
	£5-4	M						77	/ /					
	C5-6	M					/		·					
		<u> </u>												
·								:						

Reservoirs	Environmental, Inc.
TEM Ashes	tos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N)S
Voltage (KV)	100 KV
Magnification	20KX 70KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.2S um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	19世间内亚科
QA Type	

Client :	RAK
Samole Tyoe (A=Alr, D=Dust):	TAA SEE
Air volume (L) or dust area (cm2)	15H
Date received by lab	12/22/11
Lab Job Number:	27.568
Lab Sample Numben	\$411.8

Analyzed by	238
Analysis date	12/23/11
Method (D=Direct, I=IndirecL IA=Indirect, ashed)	35
Counting rules (ISO, AHERA, ASTM)	ÁH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Volume Applied to secondary titter	
Total Resuspension Volume (ml)	
Volume Applied to secondary titler (mf)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimensions		Identification	Mineral Class			·	1 = yes, blank = no			
<u> </u>	Ond Opening	Туре	Primary	Total	Lenath	Width	- Containoution	Amohibote	C NAM		Sketch/Comments	Sketch	Photo	EDS	
A	65-6	ND													
	F5-6	ND.			R) ^^	A =	70% inh	n F		3-5% d	bus			
	£5-6	M			P	7-	3 8	Debinhn	4	13	50/ del	1. ×			
	C5-6	ND			, ,	Γ.		,			/ / /				
B	45-4	M													
	65-4	M													
	F5-4	F		1	2	(CD		/		/				
	E5-4	M						do	1						
								12/	23/11						
								//:							

Laboratory name:	REI
Instrument	JEOL 100 CX/N)S
Voltage (KV)	100 KV
Magnification	Zokx Jokx
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 lm
Scale: 1D=	0.056 uni
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	1980年16

QA Tyoe

Reservoirs En	vironmental, Inc.
TEM Asbestos	Structure Count
-	

Client :	RK
Samole Type (A=Air, D=Dust):	ra A.
Air volume (L) or dust area (cm2)	:-948C
Date received by lab	12 22 1
Lab Job Numben	27105108
Lab Sample Number	\$41.82

Analyzed by	1884 St. A.
Analysis date	12/23/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	ÁH
Grid storage location	Month Analyzed
Scope Alignment	Date Ahalyzed

F-Factor Calculation (Indirect Pr	eps Only):
Total Resuspension Volums (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	mctures	Dimensions		Identification	Mineral Class		····		1 = yes, blank = no			
01.0	Gira Opening	Туре	Primary	Total	Lenath	Width		Amohibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	H4-6	MD													
_	614-6	M			Pu	A	80	hinbut	-	10%	skbis				
	F4-6	ND			Rux	B	60 0	Linkont		0%	delis			·	
	E4-6	GN			4										
3	H5-4	ND						1B ide	3/1/						
	615-4	ND						VT 1.	/						
	F5-4	ND					/								
·——————	F44	NO		.•										,	
	E4-4	ND													
								. :							

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



December 26, 2011

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. # Project Description: RES 226620-1 None Given None Given

David Roskelley R & R Environmental 47 West 9000 South #2

Dear Customer,

Sandy UT 84070

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226620-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 226620-1

Client:

R&R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

None Given

Analysis Type:

December 23, 2011

Turnaround:

TEM, AHERA 24 Hour

Date Samples Analyzed:

December 24, 2011

Client ID Number		Lab ID Nu	ımber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
				(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-122211-S		ЕМ	841575	0.0900	982	ND	0.0044	BAS	BAS
3W-122211-W		EM	84157 6	0.0900	98 2	ND	0.0044	BAS	BAS
3W-122211-N	_	EM	841577	0.1000	982	ND	0.0039	BAS	BAS
3W-122211-E	Ť	EM	841578	0.0900	982	ND	0.0044	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.010

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 12.24.11 Due Time: 110

Reservoirs Environmentel, Inc. 5601 Logan St. Oenver, DD 60216 • Ph: 306 964-1986 • Fex 303-477-4275 • Toll Fried: 666 RESI-ENY Pager : 303-509-2096

INVOICE TO: (IF DIFFERENT)

RES 226620

CONTACT INFORMATION:

Company: LER Environmental	Company					ontact:	Va	ve	<u> Kus</u>	عماح	lle.	<u></u>			_1_	Nact:				
Address: 47 W 9000 S	Address:				Př	iona:									Ptxo					
Sandy UL 84043					<u>.</u>	DC:	-10-	, , ,		100	200			Fax:						
Control No.	l						r. 80								Cel/pager:					
Project Number tund/or P.Q. #:						_														
Project Desciption/Location:						<u> </u>	ave	₩_	17 %	NUN	0.0	COM								
ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm				100	REQL	JEST	ED A	NA	LYSI	S	1	. <u></u> .		VA	LID	MATRIX	(COI	DES	LAI	B NOTES:
PLM / PCM / TEMRUSH (Same Day) / PRIORITY (Next Day)STANDARD	П					П	П		П	Π			Air	= A		Bul	k = B		
(Rush PCM = 2tir, TEM = 6hr.)]			11							į į		Dust	= D		Pair	nt = P	4	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm		1					П		1					Soil	= S			e = W	12	17201
Metal(s) / Dust RUSH 24 hr 3-5 Day	**Prior notification is	ļ	뜊		11		-{]. [اء		11	1	_		<u>= SV</u>			Food		
RCRA 8 / Matals & Welding RUSH 5 day 10 day	required for RUSH	툊	Quant		8		П	11	Quantification		11	§	Drinki	na W				ater = WW		
Fume Scan / TCLP	tunnaretinda.**	Point Count	÷ age	1	1 2	1	1 1	1 1	칠	1	11			724		O = Olhe			_	
Organics 24 tu 3 day 5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pn		\$	လို့ နှို	l !	Metats Scan				3	ន្តន		E S		IME	1792	approved	wibe m	edia only**		
E.coll 0157:H7, Collforms, S.aureus24 fir2 Day		둟	- 4		و ا			11	이뤘	or Quantification or Quantification	Quentification	on, Quantification	ì	1			1	į		
Salmonella, Listeria, E.coll, APC, Y & M48 Hr:3-5 Day			7402, SO-Ind	A A	S - Analyte(s)				Aunt +/- or	man	1	0 0	1	1			1			
Mold RUSH24 Hr		١١	≕ −		1 2	`	 ‡	\perp	비		1	5 S	ľ	1		1				
"Turnaround times establish a jaboratory priority, subject to taboratory volume and si		ह्य	- AHERA, Level quant, Micro-vac,	- 7400A, 7400B, OS	\$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	E	 <u> </u> <u> </u>	$\{\ \}$	XI.	* :	6	활물		-	-	}				
apply tor afterliours, waskends and holidays.**		<u> </u>	≴ં≅	≰ 5	, § 9.	\\		‡	<u>ب</u> الج	1 1	-	. 2	Ē	١,	غ اه	ļ	- 1			
Special instructions:		Short report,	AHERA Jam, Mic	\ \frac{5}{2} \ \frac{5}{2}	۱ <u>۲</u> ۲	ORGANICS - METH	Salmonella: +/- E.coll O157;H7:	ë	Aerobic Plate C E.coli: 4/- or	Coliforms; S.aureus;	*	- K	و څ	1	Containers	1			EM Nur	nber (Laborato)
		•				3	뚫짆	쀨	8 8	중등	20	횕물	8 8	1	1 8	Date		Time		Jse Only)
Client sample ID number (Sample ID's must be unique	y 1 %	3	Semi	PCM	METALS RCRA 8,	ĕ				LOO		SAM	Sample Volume	Manterix	(U	Collect mm/dd/		Collected nh/nwn a/p		11 11
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2 3W-122211 W										\top	П			1						76
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analysis as Indicated on this Chain of Custodypholiconstitute an analytical services agroems	nt with payment terms of NET 30 days	, fallura	to com	ply with	payment t	enns n	nay resu	ılt in 8	1.3%	nonthly	intere	at attrcharg	0.							
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Laboratory Use Only				<u> </u>	100									•		·GILIOII.	-		s/No	(Yes) No
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

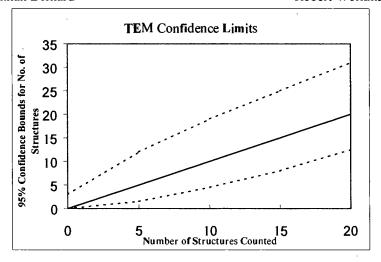
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

	Reservoirs
Laboratory name:	Environmental,Inc.
Instrument	JEOL 100 CX N
Volfaaa (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

Client:	R & R Environmental
Sample Type (A=Air, D≕Dust):	A
Air volume (L) or dust area (cm2)	982
Data received by lab	12/24/2011
	226620
Lab Sample Number:	841575

F-Factor Calculation (Indirect P	reps Only):
Fraction of primary filter used	
Total Resuspension Voluma (mi)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	12/24/2011
Method (D=Oirect, I=Indirect,	
IA=Indirect, astred)	. D
Counting rules	
(ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number: 3W-122211 S

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EOS
4	Fz-(64												
	62-4	पृष												
	63-4	<u>L</u> Y												,
	63-6	H		·	A:	70	-747-	3-5 (Jab	ne(
B	63-4	M												
	H3-4	46						۲.						
	Ce3-6	41			الأ	. د	90 > 29	1+-3-5	X	Daba				
	E 4-4	रीय												
	66-1	لملم												
										1				

Reservotre Environmentaf, Inc. TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental,Inc.
Instrument	JEOL 100 CX N
Voltage (KV)	too KV
Magnification	20KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

Client:	R & R Environmental
Sample Type (A=Air, D=Dust):	_ A
Air volume (L) or dust area (cm2)	982
Date received by lab	12/24/2011
	226620
Lab Sample Numben	841576

Lab Sample Numben	8475/6					
F-Factor Calculation (indirect Pre	ps Only);					
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (m0)						

Analyzed by	n.zimbelman
Analysis date	12/24/2011
Method (D=Direct, I=Indliect; IA=Indirect, ashed)	D
Counoity rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Nonth Analyzed
Scope Alignment	Date Analyzed

Client Sample (D Number: 3W-122211 W

Grid	Grid Opening	Structure	No. of Str	nctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
	Gird Gpdiii.ig	Туре	Primary	Total	Lenath	Width		Amphibole	<u>c</u>	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-6	40												ļ
	76-6	412												
		•			A :	3-	5 (1)	and						
<u>}</u>	65-1	ND						7				-		
	64.6	40												•
	Hi. 6	49												
	K3-3	75												
	H3-6	h N												
	44.1	LK												
	6411	7.1			É	· ~	¥							



Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Reservoirs Environmental,Inc.
Instrument	JEOL 100 CX N
Voltage (f <v)< td=""><td>loo KV</td></v)<>	loo KV
 Magnification	20 K X
Grid opening area (mm2)	0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.058 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

Client:	R & R Environmental				
Sample Type (A=Air, D=Oust):	A				
Air volume (L) or dust area (cm2)	982				
Date received by lab	12/24/2011				
	226620				
Lab Sample Number:	841577				

Fraction of pdmary titler used		
Total Resuspension Voluma (ml)		_
Volume Applied to secondary filter (ml)	<u> </u>	_

Analyzed by	n.zimbelman
Analyse date	12/24/2011
Method (D=Direct, l=Indhect, IA=Indhect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number: 3W-122211 N

Grkl	Grkl Grid Opening Structure				Identification Mineral Class				1 = yes, blank = no					
		Туре	Primary	Total	Length	Wkith		Amphiboie	С	NAM	Sketch/Comments	Sketch	Photo	EOS
4	14-4	प्रम												
	16-6	41						,						
	A 3- 4	لمله												
	E4-1	49							•					
	B5-4	لاب			•									
	D5-6	6k			A :	6	0 /2 6	t-1-2°	ة ال	34				
3	L5-6	44									7			
	14-4	St O												
	F4-9	4d												
	F3-6	प्रक			Ь	~	_A_				9			

Reservoirs Environmental, Inc. TER Asbestos Structure Count

Laboratory name:	Reservoirs Environmental,Inc.
Instmment	JEOL 100 CX N
Voltane (KV)	too KV
Magnification	20KX
Grid opening area (mm2)	- 0.010
Scale: 1L =	0.29 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

Client:	R & R Environmental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	982
Date received by lab	12/24/2011
	226620
Lab Sample Number	841578

Analyzed by	n.zimbelman
Analysis date	12/24/2011
Method (D=Direct, I=Indiect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	Ahera
Grid storage location	Nonth Analyzed
Scope Alignment	Date Analyzed

Fraction of primary filer used	
Total Resuspension Volume (ml)	
Volume Applied to secondary titler (ml)	

Client Sample ID Number: 3W-122211 E

Grid	Grid Grid Opening Structu		No. of Str	nctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	: = no
	Gird Opening	Туре	Primary	Total	Length	Width	recitation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	E3-3	MY												
	b3-6	<u>44</u>							•					
	81-4	45												
	24-1	hJ												
	B(.3	42							(
	35-	LL.			4:	95.8	ノジナン	3-5 7.118	B13					
4	\$4.6	ZZ L		1						<i>)</i> .				
	34-4	<u>\</u>												
	±4.4	É,			b	رم	+							
	·													

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

· Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening